October 8, 2004

Steve Williams
Nez Perce National Forest
Route 2, Box 475
Grangeville, ID 83530

RE: Red Pines DEIS, sent via US Mail

Dear Acting Supervisor Williams:

The following comments are submitted by Friends of the Clearwater (FOC), Alliance for the Wild Rockies (AWR), the Ecology Center (TECI), Idaho Sporting Congress (ISC), and the Lands Council (TLC) on the Red Pines draft environmental impact statement (DEIS). Please incorporate the October 6, 2000 letter from FOC, TECI, and TLC to Forest and District offices that discusses several issues pertinent to this project in this comment. Please also incorporate the Evaluation of the Nez Perce National Forest Monitoring and Evaluation Reports from FOC sent to the Forest office at the same time.

Response 13-1. Process. The letter that was submitted on October 6, 2000 is considered a different project and will not be incorporated at this time. The Nez Perce National Forest Monitoring and Evaluation Reports from FOC have been reviewed.

Purpose and Need/Alternatives

The main driving force behind this proposal seems to be fire and bugs. This proposal purports to focus attention on a need to deal with the wildland fire issue, however it is not apparent that the proposal is to perform actions of the highest priority, which are dealing with vegetative conditions in the immediate vicinity of private homes and other structures. The fuel reduction proposed will make little difference when spotting from wildland fires miles away can cause a home to bum if fuel conditions right next to the home are not dealt with. Only in the context of the Forest Service (FS) doing firewise education programs for private landowners in this vicinity would this proposal make sense.

Response 13-2. Purpose and Need. Fire, silviculture.

This project is designed to reduce fuel loadings at strategic locations over a landscape scale, and is not specifically designed to accomplish defensible space around structures. Actually, the Red River Defensible Space Project that has been completed has accomplished fuels modifications within 200 feet of structures located adjacent to Forest Service lands within the Red River watershed. Additionally, the District's Fire Prevention Technician is working with and available to local property owners to help them with Firewise education.

The FS (Cohen" 1999) reviewed current scientific evidence and policy directives on the issue of fire in the wildland/urban Interface and recommended an alternative focus on home ignitability rather than extensive wildland fuel management:

> The congruence of research findings from different analytical methods suggests that home ignitability is the principal cause of home losses during wildland fires... Home ignitability also dictates that effective mitigating actions focus on the home and its immediate surroundings rather than on extensive wildland fuel management.
>
> [Research shows] that effective fuel modification for reducing potential WUI fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings. Those characteristics of a structure's materials and design and the surrounding flammables that determine the potential for a home to ignite during wildland fires (or any fires outside the home) will, hereafter, be referred to as home ignitability.
>
> The evidence suggests that wildland fuel reduction for reducing home losses may be inefficient and ineffective. Inefficient because wildland fuel reduction for several hundred meters or more around homes is greater than necessary for reducing ignitions from flames. Ineffective because it does not sufficiently reduce firebrand ignitions (Cohen, 1999.

Response 13-3. Purpose and Needs. Fire interface

While it is acknowledged that an efficient and effective method to protect structures is by conducting work within the home ignitability zone, structure protection is not the primary purpose and objective of this project. Additionally, the Red River Defensible Space project, which removed ladder fuels and surface fuels within 200 feet of private structures adjacent to Forest Service managed land, has already been completed around structures located within the Red River Drainage.

That research also recognizes "the imperative to separate the problem of the wildland fire threat to homes from the problem of ecosystem sustainability due to changes in wildland fuels" (Id.).

Where past fire suppression is often identified as a culprit it is necessary for the FS to programmatically ; assess Its fire management policies so that economic investments In fuel reduction are most efficient. Throwing money at unnecessary fire suppression activities followed by throwing money at fuel reduction

because of the adverse effects of fire suppression makes no sense ecologically nor economically. Last year's Slims Fire is a case in point where the damage from fighting fires that should not have been fought was far greater than any damage from the fire itself. Likewise, spending money on fuel reduction activities so that fire suppression can allegedly be carried, resulting in the need to do fuel reduction,... seems like a cycle of management that only protects FS job security and damages ecosystems.

Response 13-4 fire.

This project responds to public input received from people who use and reside within the project and surrounding area. Refer to FEIS, Chapter IV, Section 4.5. Please refer to the Purpose and Need and Forest Plan direction from the FEIS, Chapter I, Sections 1.5 and 1.6.1.2. The Forest Plan and Fire Management Plan currently do not allow for Wildland Fire Use (WFU) within any portion of the project area. Without the authority for WFU, all fire ignitions within the project area require a suppression response and can not be allowed to play its natural role.

We believe that high intensity forest manipulation as you are proposing, which is really designed to replace natural fire, will not lend towards restoring functional ecosystems. Rather, logging activities will disrupt the natural forest succession. Fire is a natural and essential component of forest ecosystems, and the presence of naturally functioning wildland fire indicates a high degree of ecosystem function.

This is particularly true in the Red River drainage which has significant portions of lodgepole pine, spruce and other high elevation trees in higher elevation landscapes. Beschta et al., 1995 state, "Land managers should be managing for the naturally evolving ecosystems, rather than perpetuating artificial ones we have attempted to create."

Any forest condition that is maintained through intense mechanical manipulation is not maintaining ecosystem function. We request detailed disclosure of the historical data used to arrive at any assumption of "desired conditions." We don't believe the proposed management activities are designed to foster the *processes* that naturally shaped the ecosystem and resulted in a range of natural structural conditions, they are merely designed to recreate structural *conditions in a single point* in time that the FS considers "natural." Even that goal won't be met by this project. Generally, past process regimes are better understood than past forest structure. How are you factoring in fire, insects, tree diseases, and other natural disturbances in specifying the structural conditions you assume to be representative of the historic range?

Response 13-5.

This project responds to public input received from people who use and reside within the project and surrounding area (refer to FEIS, Chapter IV, Section 4.5 Please refer to the Purpose and Need and Forest Plan direction from the FEIS, Chapter I, Sections 1.5 and 1.6.1.2.

The development of approved fire management plans in compliance with the Federal Wildland Fire Policy was the number one policy objective intended for immediate implementation in the Implementation Action Plan Report for the Federal Wildland Fire Management Policy and Program Review. In general, the FS lags far behind other federal land management agencies that have already invested considerable amounts of time, money, and resources to implement the Fire Policy. Continued mismanagement of national forest lands and FS refusal to fully implement the Fire Policy puts wildland firefighters at risk if and when they are dispatched to wildfires. This is a programmatic issue, one that the current Forest Plan does not adequately consider. Please see Ament (1997) as comments on this proposal, in terms of fire policy and Forest Planning.

Response 13-6. Alternatives

The zone Fire Management Program for the Clearwater and Nez Perce National Forests does have an approved fire management plan in compliance with the Federal Wildland Fire Policy. The plan is updated annually and was most recently approved in June 2004, by both Forest Supervisors (Clearwater and Nez Perce).

The DEIS fails to meet the spirit and intent of NEPA and NFMA requirements by using non-NEPA documents to establish management direction. that coupled with an overly narrow Purpose and Need will lead to a predetermined decision and constrains the array of alternatives. In this case, programmatic decisions in the South Fork Landscape Assessment and the Red River EAWS (the latter which has not been readily available to the public) or presumed to be in those assessments, to meet some so-called historic range of variability and establish goals for vegetation.

Response 13-7. Process.
This project is consistent with and guided by management direction in the Nez Perce National Forest Land and Resource Management Plan (Forest Plan). Forest Plan amendments are being proposed in this project. Current scientific information from assessments (such as those mentioned) improves and enhances our understanding of ecological interactions and the associated management implications.

The South Fork Clearwater Landscape Assessment and the Red River EAWS are analyses, not decision-making documents. While Red Pines EIS refers to these analyses, ther are not being tiered to as decision documents. Principally, they are serving as tools to assess the biophysical and social conditions of the South Fork Clearwater River subbasin and Red River watershed. These analyses identified opportunities to improve existing conditions. Decisions concerning these opportunities, however, are left to a site-specific NEPA analysis (such as this).

In particular, the DEIS claims that the DFCs in the forest plan are not being met. Yet nowhere do the forest plan DFCs speak to some range of variability. The DFCs in the plan address changes resulting from logging including negative impacts. They are predicated more on assumptions about vegetative change due to logging, not truly desired future conditions, and assume that such logging would occur at a given level.

Response 13-8 Forest Plan DFC.

The two main statutes that govern the management of our National Forests are the National Environmental Policy Act (NEPA) and the National Forest Management Act (NFMA). These two intertwined environmental laws form the procedural path the Forest Service must follow when making management decisions that affect National Forest land. One of the most important steps in this path is the requirement of public participation in the management decisions. "Consistent with NEPA's goal of public-private cooperation in environmental protection", the public must be given the opportunity to review, comment on, and appeal the forest management decisions made by the Forest Service.

Public participation in Forest Service management decisions is extremely important because it ensures agency compliance with the applicable environmental laws that control or affect land and resource use and provides for administrative appeal and judicial review of these decisions. The NEPA public participation process enables interest groups with conflicting demands upon the various resources of the National Forests to have those demands incorporated into Forest Service management decisions. It is through the NEPA public participation process that public interest groups gain access to the courts to ensure agency compliance with the applicable environmental laws.

Forest Service land-management, decision-making is a two-stage process. Briefly, there is the planning stage and the site-specific project stage. The planning stage is the production of Land and Resource Management Plans (LRMP's or Forest Plans) which "create a framework for subsequent forest management". Forest Plans are regarded as programmatic documents that establish the management direction of the forest. The second stage is the development of site-specific projects which "determine the specific uses to which the forest will be put to accomplish the goals set forth in the Forest Plan". Site-specific projects are required to comply with the management prescriptions established in the Forest Plan.

Additional documents which set management direction, under the deceptive auspices of analysis, are not allowed under NEPA and NFMA. Analysis documents such as the SFLA or Red River EA WS are supposed to simply provide information, not new management direction, goals, or desired conditions.

What is at issue here is that the non-NEPA documents referenced above (and the ICBEMP, which through originally on a NEPA/decision track, was changed) have not gone through the NEPA analysis to look at a range of alternatives, to consider cumulative impacts, or to suggest alternatives to the adoption of new desired future conditions (DFCs), goals, or standards. Only the Forest plan can set that direction. The NFMA regulations require amendment and/or revision when making changes to forest plans. Both amendments and revision require NEPA (36 CFR 219.10 and monitoring should help determine the need for amendments and revision 36 CFR 219.12) The public must be involved. .

Response 13-9. Process. NEPA/NFMA
See Response13-7. Process, Proposed Action. DFC goals and forest direction , non-nepa documents.

The DEIS fails its duty under NEPA to offer and disclose to the public a reasonable range of alternatives that includes scientifically and ecologically sound management proposals. The purpose and need was designed in such a way as to constrain alternatives and, in so doing, pre-determined the decision prior to issuance of even the DEIS.

A basic requirement of NEPA is that federal agencies must consider a reasonable range of alternative actions in an EIS. 42 U.S.C. 4332(2)(cXiii); 40 C.F.R. 1502.14; Bob Marshall Alliance v. Hodel, 852 F.2d 1223 (9th Cir. 1988), cert. denied, 489 U.S. 1066 (1988). The range of alternatives should "sharply [define] the issues and [provide] a clear basis for choice among options by the decision maker and the public." Id. Under NEPA, alternatives analysis must:

> (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated. ...
>
> (c) Include reasonable alternatives not within the jurisdiction of the lead agency.

Response 13-10 DEIS, Alternative, Reasonable Range.

The range of alternatives was developed in response to the Purpose and Need and issues identified through scoping. A new alternative, Alternative E, was developed in response to comments of the DEIS. The FEIS describes Alterative E and discloses the potential effects to each resource area. (Refer to FEIS, Chapters I and II).

40 C.F.R. *B* 1502.14 (a) and (c). See California v. Block, 690 F.2d 753, 765-69 (9th Cir. 1982) (reversing EIS for failure to address reasonable range of alternatives); see also Muckleshoot Indian Tribe v. USFS, 177 F.3d 800 (9th Cir. 1999) (reversing EIS for failure to address reasonable range of alternatives).

There is a lack of a range of alternatives--or any alternative--that examines the implications of changing forest plan management direction as noted above. There was no real restoration alternative without logging. Conflation of those opposites--logging and road building which are damaging and restoration which seeks to restore the damage from the pervious two--is dishonest. Furthermore, narrowly defining the purpose and need to require removal of vegetation (a euphemism for logging) violates NEPA.

There is no better example of this than the fact that every single action alternative is illegal under the current forest plan. Each of them amend and weaken the forest plan's water quality and soils standards in two separate amendments (appendix D). At a minimum, there should have been one action alternative that met the forest plan's water quality and soil standards.

Moreover, use of the overly limited statement of purpose and need to formulate alternatives omits key national, regional and local priorities in terms of restoring watersheds and fisheries habitat without further ecological degradation. As we know, the upper Columbia River basin anadromous fisheries are in steep decline and their recovery is of paramount importance to the region. The Forest Service manages most of the headwaters of the Clearwater River which is critical spawning grounds for native and anadromous fish.

The Forest Service holds a grave responsibility to the Columbia River Tribes, and to all citizens, to do its utmost to improve spawning habitat. The federal government, including the Forest Service, has a legal and moral obligation to do all it can to reverse this trend to meet treaty rights and environmental laws. When fish stocks are at such critical lows, it is the federal government's responsibility to not only minimize the habitat degradation --but also to maximize restoration.

In fact, this is the policy adopted by the government in the salmon recovery strategy and in the NMFS biological opinion. The government chose not to remove the lower 4 Snake River dams and instead focused on habitat. Status quo is insufficient. **

The Seventh Circuit recently explained:

> No decision is more important than delimiting what these "reasonable alternatives" are. ...One obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing "reasonable alternatives" out of consideration (and even out of existence). ... If the agency constricts the definition of the project's purpose and thereby excludes what truly are reasonable alternatives, the EIS cannot fulfill its role.

This DEIS follows that pattern mentioned by the Court. In coming up with the purpose and need, the agency has defined the issues to preclude a reasonable array of alternatives, including an action alternative that meets the forest plan.

Response 13-11. water quality, amendments.
See Response 1-2.
The preferred alternative, Alternative E, was developed to provide an alternative that responses to the issue of Forest Plan amendments and management direction.

Response 13-12. Purpose & Need, priorities, habitat, tribal relations
See Responses 13-10, 13-11

Please refer to the fish viability/population trend analysis in Chapter 3 of the FEIS. We agree that the status quo is not an option and this project was designed to meet the Forest Plan objective of improving fish/water quality in streams that are below their objective. Restoration activities are included for all watersheds within the project area.

In addition, the Nez Perce National Forest has pursued an active and ongoing dialogue with the Nez Perce Tribe at key points during the development of this proposed project. Additionally, their advice and input has been sought at all phases and is continually being incorporated into this document. Refer to the Responses to Comments from Nez Perce Tribe #4.

Water Quality/Fisheries/Soils

One of the most important issues in the area is water quality, watershed health, and hydrological integrity and how they affect aquatic life forms including the listed and sensitive fish species. These fish are an important part of Idaho's heritage and Forest Service has a grave responsibility to ensure fish populations are available to meet the treaties, made between sovereigns, with the Columbia Basin Tribes. Furthermore, all Americans and Idahoans have a keen interest in the recovery of native fish.

Response 13-12a. tribal relations
See Response 13-12. fish, tribal relations.
See also Response 5-15.

There are several issues that need to be addressed in this document. They include the current state of the RHCAs, the proposed forest plan amendments, baseline data, the cumulative impacts on the South Fork Clearwater, the indicators and parameters identified in the DEIS, the disconnect between water quality based upon modeling and fish habitat and how that does not meet the forest plan, and the very different impacts of pulse disturbances (fire) versus press disturbances (logging and road building).

While we discuss RHCAs in more detail below, one point needs to be underlined. The DEIS does not indicate the extent to which the current streams are compromised by existing roads and other development within RHCAs.

Response 13-13 Fish, RHCA, roads.
The FISHSED model was not used to predict upward trend. As discussed in section 3.1.7.1 and Appendix H of the FEIS, FISHSED only considers short-term peaks in percent over base and does not have the capability to model long-term changes in sediment yield. Road decommissioning was included in NEZSED modeling, but instream habitat improvement, channel reconstruction, sediment trap removal, removal of failing log culverts, and stream crossing upgrades to provide for upstream fish migration were not. These activities are proposed to improve watershed and stream condition and provide for an upward trend. These projects may result in localized additions of sediment and/or liberation of sediment already in streams substrates, but they are also expected to result in long-term declines in sediment and prevent future sediment additions from crossing failures and streambank erosion.

The agency is clearly not meeting commitments to the public on upward trend in water quality or maintaining soil conditions. The fact that amendments to the plan are proposed under all action alternatives proves this point. Future modeled water quality is no surrogate for proven monitored trend.

Similar amendments were proposed for the Meadow Face FEIS and approved in the ROD. This is a pattern not recognized in the DES and these kind of amendments are major amendments according to NFMA.

Response 13-14. Amendments, water quality, upward trend, Alternatives.
See Responses 13-11,and 3-25. See also responses 1-2.
It has been determined that the preferred alternative (E) meets the upward trend requirements stated in Appendix A of the Forest Plan. The rationale for this conclusion is found in Chapter III and Appendix H of the FEIS.

It is not clear from the DEIS whether an environmental baseline for watersheds is included. Generally, this means their condition before development or resource exploitation was initiated. For example, the baseline condition of a stream means the habitat conditions for fish and other aquatic species prior to the impacts of road building, logging, livestock grazing, etc. Proper disclosure of baseline conditions would mean estimates of stream stability, pool frequency conditions, water temperature range-essentially the values of Riparian Management Objectives along with such parameters as sediment levels. When such information is provided, comparison with the current conditions (after impacts of development) would aid in the assessment of cumulative effects of all alternatives.

Response 13 - 15. Fisheries, environmental baseline.
An assessment of pre-development conditions in the Red River watershed has been completed in the Red River Ecosystem Analysis at the Watershed Scale (EAWS or "watershed analysis"). The results of this analysis are incorporated in the FEIS by reference (USDA-FS 2003a) and summarized in the FEIS in Section 3.1.7.3, Section 3.1.8.3, Section 3.1.9.3, 3.1.9.4, and Section 3.5.6.4.

For example, table 111-7 discusses sediment over base. Is base considered the yield under natural conditions without roads or logging?

Response 13-16. Water quality, NEZSED, percent over base.

That is correct. Percent over base and percent over natural are synonymous in the context of the sediment yield analysis.

The cumulative impacts analyses in the DEIS are confusing and incomplete. Projects like Eastside Township were neglected, as were mining projects in the Red River and South Fork drainages. Projects lower down in the South Fork drainage such as Blacktail were also omitted as were ongoing projects. Cumulative impacts from private land development were omitted by NEZSED.

Response 13 -17 cumulative effects, fisheries.

Baseline conditions are identified in the FEIS, Chapter III, Section 3.6. Both the DFC Analysis (Espinosa, 1992) and the *Revised Matrix Pathways and Indicators of Watershed Condition* (Revised 3/9/98). These documents and methodologies provide a numeric reference of optimal fish habitat conditions.

The cumulative effects discussion was supplemented with additional analysis in Chapter III of the FEIS, With the exception of the Blacktail Project, all recent, ongoing and foreseeable timber and road acitivities that could be modeled, were incorporated into the ECA and sediment yield analyses. These included Whiskey South, Upper Red River Restoration, American and Crooked River, Eastside Township, Newsome Restoration, and private land timber harvests., Not all ongoing and proposed activities are modeled in the ECA or sediment analyses. The types of activities and effects that are modeled are disclosed in Appendix H. Even though not modeled, these other actions were considered in the context of the cumulative effects analysis. Cumulative effects analysis for all resource areas has also been supplemented.

The TMDL for the South Fork has just been or is on the verge of being approved. Sediment is a major problem in the South Fork Clearwater.. The evidence that is available leads one to conclude the TMDL, which requires a reduction of 25% in sediment won't be met. How can the agency produce more sediment and still meet the TMDL that calls for sediment reduction? What about temperature and other pollutants?

Response 13 -17a TMDL, watershed

The South Fork Clearwater River TMDLs were approved by EPA in July, 2004. An implementation plan is scheduled to be completed in 2005. This project is predicted to result in a net decrease in sediment yield to the South Fork Clearwater River over time (refer FEIS, Chapter III). No single project will be expected to achieve the entire TMDL sediment reduction goal. However, this project will contribute toward that goal. The project was designed to meet the TMDL water temperature requirements for canopy density and shade. Effects to potential changes in water temperature were presented in Chapter III of the DEIS. Consultation is underway with the IDEQ to determine whether the new Alternative E in the FEIS complies with the South Fork Clearwater River TMDLs.

There is an increasing reliance on modeled parameters at the expense of continuing needed monitoring as required by the forest plan. NEZSED (FISHSED as well) is used as the model in spite of serious problems with it. There is one critiques of NEZSED referenced in the DEIS (Gloss 1995). However, the DEIS fails to capture the serious problems with this model uncovered in that master's thesis.

Even more critical is the omission Hickey's research of WATBAL. NEZSED is a "version" of WATBAL and it is very similar. This peer-reviewed study by Hickey (1997) has documented that the WATBAL model consistently underestimates the amount of sediment actually reaching streams. WATBAL underestimates sedimentation for a number of reasons. One example is that the model assumes that all sedimentation effects from roads significantly diminish after a brief period. In fact, as the 1995-% slides, particularly on the adjacent Clearwater National Forest graphically demonstrated, roads and road failures can continue to contribute sediment to streams, often on a massive scale, for literally decades (McClelland et al. 1997; Pipp et al. 1997; Espinosa, 1998). Another major flaw illustrated by Hickey was the manner in which the model deals with precipitation --especially storm events. The model deals with average conditions, and does not consider intense storm events, such as the 1995-96 events. Indeed, the
McClelland study similarly noted (Vol. II, p. 4) that "WATBAL is not an episodic simulator and was never intended to model events. The program's source information was (and continues to be) based on long-term measured averages." Many of the watersheds that were blown-out by the flooding and landslides in 1995-96 were assessed as "recovered" by WATBAL.

The DEIS bases its analysis upon NEZSED and other predictions. It is not based upon monitoring data.

In spite of the problems documented above, the DEIS acknowledges some weaknesses in the models. Given that reality, why the agency chose to analyze three action alternatives that utterly fail to protect water quality and fish habitat and fail to properly document impacts is a mystery.

Furthermore, the DEIS does not seem to indicate whether the entry frequency guidelines in appendix A have been met or exceeded. Is that information available and if so, where is it?

Response 13-18 . Modeling, Nezsed.

The analysis in the FEIS used information from models, such as ECA, NEZSED and FISHSED, but also augmented those with field inventory, monitoring data, literature reviews and professional judgement. The monitoring plan was expanded in the FEIS and is found in Appendix I.

The section on model limitations and tests has been expanded in Appendix H of the FEIS. The results of four NEZSED model tests are discussed, including a new test by Thomas and King (2004). WATBAL and NEZSED share certain common ancestry with regard to surface erosion sediment yield and equivalent clearcut area computations. They are different in that NEZSED does not estimate activity-related mass erosion events greater then 10 cubic yards in size, nor does NEZSED compute water yield increases. NEZSED coefficients show that sediment yield from roads decreases after initial construction, but not to zero.

The Hickey (1997) report compared WATBAL results against measured sediment yield data. Although there are similarities between WATBAL and NEZSED, there are enough differences that direct comparisons are problematic. NEZSED has been tested against local field data and those results are presented in Appendix H of the FEIS.

The 1995-1996 storms on the Clearwater and Nez Perce National Forests resulted in numerous landslides from roads. Few if any of these occurred in the Red River watershed. This is due in part to the generally low landslide hazard of land types in the project area.

Monitoring data have been used to test NEZSED results. In addition to testing NEZSED, the Thomas and King (2004) study evaluated sediment yield trends at two stream gaging stations in Red River during the period of 1986 through 2001. The results of this study were incorporated into the aquatic condition trend analysis documented in Appendix H of the FEIS.

The frequency guidelines are located in the Forest Plan, Appendix A, by prescription watershed.

One of the wrong assumptions in the DEIS is the damage to watersheds from stand-replacing fires (see page III-57). The SFLA clearly notes the difference between pulse events like stand-replacing fires (which are necessary for watershed function) and press events (road building and logging). "Predominantly pulse disturbances of fire and flood have been supplanted by wide scale press disturbances of harvest and road-related sediment regimes that have impacted aquatic integrity."

We have provided the agency in the past a white paper from agency personnel about bull trout habitat. This paper, titled "Reducing Fire Risks to Save Fish-A Question of Identifying Risk" is from the Western Montana Level I Bull Trout Team. If you don't have a copy of that paper, please contact Friends of the Clearwater to obtain one. That paper clearly note that science does not support the notion of logging for watershed health to reduce fire risk. (see also the fire section of this comment).

Response 13-20 – Fire effects
Stand-replacing fires can have deleterious effects on aquatic resources. In Red River, this is especially true, given the history of press disturbances such as roads. Fire effects can interact with roads as in the case of culvert failures, flow diversions, etc. It is also recognized that fires play a natural role in aquatic ecosystem dynamics.

The DEIS is not clear whether logging would occur in landslide prone areas. Page III-31 only speaks to high risk areas (not moderate) and it is not specific whether logging and road building would be allowed. Given that areas naturally slide in the Clearwater drainage, the DEIS needs better documentation. There is no evidence presented that areas at risk for landslides can be logged without threatening the watershed.

BMPs won't prevent landslides. In fact, Magistmte Judge Erickson sided with plaintiffs on the adjacent Clearwater National Forest on the Fish Bate timber sale. The judge noted (NO. CV -97-208-M-LBE):

> Because BMPs have not been assessed for their effectiveness against landslide events and because a high risk of landslides is acknowledged in the Fish Bate preferred alternative, the Court finds it is not reasonable for the Defendants to just summarily rely on BMPs to mitigate this environmental impact. Therefore, the Court finds the FEIS conclusion that the project will have no effect on water quality to be arbitrary and capricious based on the undisputed risk of landslides in the FEIS. Accordingly, the decision is reversed and remanded.

This issue is applicable here

Response 13-21. Soils, slope stability, risk.
The discussion of landslide risk factors, historic occurrence, response to harvest and road building has been strengthened. Please see Chapter 3, Section 3.4. There still exist some units and a small section of road proposed in high risk settings. These will be further evaluated in the field, as documented in Table II-2, to assess risk and adjust activities, emphasizing avoidance to maintain slope stability. A limited number of small past events has occurred in moderate hazard areas, and predominantly as channel scour in high gradient intermittent or first order streams, rather than as landslides or debris torrents. As a consequence, moderate hazard areas will require field assessment, particularly near channels. The PACFISH buffers offered by all alternatives (less so for alternative B) would effectively protect most of the more sensitive sites, but more site specific requirements are provided for in the design criteria.

This project differs from the Fish Bate EIS in that the landslide risk is typically low in this project area, with few instances of high risk, and that avoidance of activities in high risk settings is required in the design criteria. Adjustment of activities is required where needed in moderate hazard settings. BMPs are augmented by field reviews and site specific adjustment of activities or unit boundaries. The major BMP is avoidance and this is the most effective and cost-efficient method of managing landslide-prone terrain (Chatwin et al., 1991). Megahan et al., (1978) found that for the Northern Rocky Mountains landslide occurrence was most often (68 percent) associated with removing more than 30 percent of the canopy cover on steep slopes. We infer that leaving all canopy cover on all high risk settings and on moderate risk settings where site factors suggest any sensitivity would constitute an effective best-management practice. Likewise, temporary road construction would be designed to avoid all high risk settings. Where settings that would require end hauling or full bench construction occurred, we would avoid that location. The roads also use temporal avoidance. They would be in place no more than three years, which would shorten the period they would be susceptible to storms and flooding that result in most landslides (McClelland et al. 1997). Historical analysis has been used to document the frequency, magnitude, location, and type of mass erosion events and the design criteria have been developed with this information in mind.

The DEIS assumes that PACFISH buffers will work and are intact. However, road locations in the drainage and past logging have compromised many buffers. They are not fully functioning.

Response 13-22. Soils, fish, bmp, wq, PACFISH, buffers, effectiveness, monitoring
See response to Comment 13-20 for Soils.
This comment is not specific to the project. See Chapter III, Section 3.4, Soil Physical Properties – Mass Erosion, for the analysis of effect to landslide prone areas.

Furthermore, the action alternatives are not clear whether PACFISH will be followed. Certainly, alternative B would violate these requirements. It is less clear whether alternatives C and D would violate the law.

This is a serious issue. Violating these standards when there is no clear indication of recovery in this watershed from sediment, cobble-embeddedness, or other water quality and fish habitat parameters is contrary to the forest plan, NFMA, the ESA and the CW A.

In fact, the analysis in the DEIS leads one to conclude PACFISH cannot be violated. Current fish habitat and water quality standards are well below forest plan objectives.

Response 13-23. fisheries, wildlife, monitoring.

PACFISH is not a law. It is internal management direction for National Forests and BLM districts in the upper Columbia River basin. It establishes riparian goals and management objectives for watersheds, riparian areas, and associated fish habitat and provides standards and guidelines for management activities in riparian areas. The Decision Notice for the PACFISH Environmental Assessment amended the Nez Perce Forest Plan in March 1995. We agree that Red Pines alternatives should be consistent with standards and guidelines in the Forest Plan (as amended). We also agree that current fish habitat and water quality *conditions* (not standards) are below forest plan *objectives* in most subwatersheds in Red River, as is disclosed in the FEIS in Section 3.1.6.1. We included a description of relevant standards and guidelines from PACFISH in Section 3.1.2.4 and an assessment of how each alternative complies with this direction in Section 3.1.10.3.

Alternatives B does not violate any standard or guideline in PACFISH. Please see response to Comment 4-7.

Alternatives C, D, or E do not violate any standard or guideline in PACFISH. See FEIS, Fisheries section 3.6.9.3.

Limiting or deferring harvest in streamside RHCAs is expected to prevent adverse effects on riparian-dependent wildlife species such as harlequin ducks and boreal toads. We agree that streamside roads and past logging have compromised many riparian habitats in Red River, as have mining activities, and that many of these areas have not recovered. The existing condition of riparian habitats is discussed in detail in the Red River EAWS and summarized in the Watershed and Fisheries sections of the FEIS. Many of the watershed restoration projects proposed under all action alternatives are intended to address riparian condition and result in improvement in riparian condition and PACFISH RMOs. Appendix H contains a complete description of restoration projects in each subwatershed, by alternative.

The DEIS does not provide actual monitoring data on listed, TES or MI aquatic and semi-aquatic species. In this, the DEIS fails to meet the requirements of the forest plan. This is a particular problem for rare or endemic species like the Idaho giant salamander whose populations, according to independent researchers, have seriously declined in recent years.

Response 13-23a. Monitoring, wildlife, TES.

Various sources of monitoring data were available and used in the analysis for listed, TES or sensitive aquatic species. Information is included in the Population Viability Assessment, Upper South Fork Clearwater River (Spring Chinook Salmon, Snake River Steelhead Trout, Westslope Cutthroat Trout, Columbia River Bull Trout, Pacific Lamprey) in the project file.

Monitoring data on listed, TES or MI semi-aquatic species was limited but used . Information is included in the Red Pines Post-Mountain Pine Beetle Epidemic Fuels Reduction Project: Effects at Project, Forest, and Regional Scales –Compatibility with NFMA Requirements for Maintaining Species Viability, in the project file.

Among other things, we are concerned that project activities will accelerate soil erosion, increase soil compaction, and degrade soil productivity. NFMA requires the FS to "not allow significant or permanent impairment of the productivity of the land." [36 C.F.R. § 219.27(a)(1).] NFMA requires the Forest Service to "ensure that timber will be harvested from National Forest System lands only where-soil, slope, or other watershed conditions will not be irreversibly damaged." [16 V.S.C. 1604 (g)(3)(E).]

Response 13-24. Soils
The regulatory framework for protection of soil resources is displayed in FEIS, Chapter 3.4. The analysis of effects on soils, including compaction, displacement, erosion, mass wasting, nitrogen, potassium, and soil wood, is also in this Section. Project design and mitigation measures developed to keep soil effects within Regional Soil Quality Guidelines, protect slope stability, and to respond to additional productivity concerns, are in Table II-2. Additional restoration is required for those activity areas that have sustained prior impacts in excess of regional guidelines. Additional soil improvement projects to help restore soil productivity on other sites within the project area are shown in Appendix H. The monitoring required in Appendix I will identify where changes in planned and ongoing activities are required to meet regional guidelines, and to assure that areas with prior impacts achieve an improving trend at completion of the project.

The Forest Management Handbook at FSH 2509.18 directs the FS to do validation monitoring to "Determine if coefficients, S&Gs, and requirements meet regulations, goals and policy" (2.1- Exhibit 01). It asks what we are asking: "Are the threshold levels for soil compaction adequate for maintaining soil productivity? Is allowing 15% of an area to be impaired appropriate to meet planning goals?" The Ecology Center recently asked the Northern Region if they have ever performed this validation monitoring of its 15% Standard, in their February 26, 2002 Freedom of Information Act request to the Regional Forester, requesting:

> The Forest Management Handbook at FSH 2509.18 provides the Forest Service with examples of validation monitoring to "Determine if coefficients, S&Gs, and requirements meet regulations, goals and policy." It asks "Are the threshold levels for soil compaction adequate for maintaining soil productivity? Is allowing 15% of an area to be impaired appropriate to meet planning goals?" We request all documentation of validation monitoring by the Forest Service in the Northern Region that answers those two questions.

The Northern Region office's reply letter stated that there is no documentation that responds to this request. If the Nez Perce NF is aware of any new or other documentation that would respond to this request, we ask that you please disclose it to us now.

Response 13-25, and 13-26. Soils.
The soil quality standards applied to this project are those of the Forest Plan amended to incorporate the Regional Soil Quality Guidelines. The validation of soil quality standards requires a well-designed research program addressing differences in soils, forest types, climates and treatment types. Dumroese et al. (2000) found that the same standard for displacement would result in widely varying amounts of carbon and nitrogen loss depending on soil type, while effects on seedling survival and growth of compaction or displacement also varied widely in many cited studies. Soil compaction and displacement effects are being studied under the North American Long-Term Soil Productivity Study, which replicates treatments of forest floor removal and compaction across many soil types and climate zones (Powers, 1990). This study should help us understand **degrees** of impacts at a point. Studies to examine the **aerial extent** of impacts on soil, hydrologic and vegetation processes at a broader scale could be more complicated. The derivation of the 15 percent Region 1 guideline for areal extent of disturbance was thought to represent the threshold of statistical delectability, in its effect on tree growth (Howes, personal communication, 2004; Cline, personal communication, 2004).

The DEIS does not clearly show or evaluate cumulative the impacts from livestock grazing on the watershed. There are a few allotments in the planning area and grazing does occur on private lands (such as the meadows in Red River)

Response 13-27. cumulative effects, grazing.
See also Response 3-16
We have added material on the extent and estimated soil impacts from grazing in Chapter 3.4 under existing compaction and displacement, and referenced this discussion in the cumulative effects section. Grazing is also discussed in the watershed and vegetation sections of Chapter III, and in Chapter III, Section 3.2 cumulative effects.

Given the above concerns, it is difficult to see how this project meets the ESA regarding listed fish species (salmon, steelhead, bull trout) and Sensitive and MI species (westslope cutthroat, Pacific lamprey, long-tailed frogs, the Idaho giant salamander, and other amphibians). There is no solid evidence from monitoring that habitat is recovering (there appears to be some recovery from cobble-embeddedness in the upper river basin but perhaps degradation in the lower river).

Response 13-28. ESA, MI, fisheries..
As disclosed in Section 3.1.5.2 of the FEIS, ESA listed fish species in the project area include Snake River steelhead trout and Columbia River bull trout. Fall chinook salmon, which are also listed under ESA, are not found within the project area but are found downstream in the very lowest reaches of the South Fork Clearwater River and the main Clearwater River. Westslope cutthroat trout, Pacific lamprey, and spring chinook salmon are found within the project area and are Region 1 sensitive species. Westslope cutthroat trout and chinook salmon are included as MI species in the Nez Perce Forest Plan.

A viability analysis has been completed for listed and sensitive fish potentially affected by the project. It is available in the project record and is incorporated into the FEIS by reference. A viability analysis has been completed for listed, sensitive, and MIS wildlife, including amphibians, and is located in the wildlife section of the project file.

In regards to the project meeting ESA requirements, the Biological Assessments for listed fish and wildlife and the Biological Opinion for listed fish will be included in the FEIS Record of Decision.

Appendix A of the Nez Perce Forest Plan includes Fish/Water Quality *Objectives* (not standards) for prescription watersheds on the Nez Perce National Forest. As disclosed in Section 3.1.6.1 of the FEIS, the existing condition of streams in the Red River watershed suggests that fish/water quality objectives are not being met. Watershed restoration projects, as proposed under the various action alternatives, are largely designed to meet improvement (or "upward trend") direction in the Forest Plan for these watersheds. Under some alternatives, uncertainty exists regarding the project's ability to meet this direction in some subwatersheds; therefore, the FEIS includes amendments to this direction to allow fuel reduction activities to take place for some but not all alternatives, as described in Appendix H.

What is clear is that standards are not being met (see appendix A, forest plan). As such, approval of the non-restoration parts of the project-- logging and road building--are in conflict with the forest plan, NFMA, the ESA, the CW A, and treaty obligations.

In regards to the project not meeting NFMA and ESA requirements, please see Response 13-28.

In regards to the project not meeting CWA and treaty obligations, please see Responses: 6-4 and 5-15.

Vegetation/Fire/HRV

The DEIS is based largely upon a flimsy premise the forest needs massive and extensive human intervention to make it healthy again. While that premise is not without some equivocation, possibly due to the fact that much of fire ecology is based upon speculation on what conditions were like years ago, the overriding theme seems to be the forests are out of whack because of fire suppression. Of course, the changes that have taken place from logging, mining and grazing are not emphasized even though they have been the greatest agent of change in Red River.

Nevertheless, there is great irony in the DEIS. It claims, on one hand, that massive vegetation manipulation is needed. On the other hand, the DEIS makes the case that the area, for the most part, is not out of its historical range of variability (HRV) (NOTE: see map 8 and page 111-110). This inconsistency is rather glaring. We address these issues in more detail below.

The DEIS and associated documents are not precise in how to define forest health. Is it merely an expression of being within historical range of variability (HRV) or does it include human economic concerns as well? If the latter, how can science define what is healthy since the economic values are simply that, expressions of a value system, and not based in value-neutral science? (see Walder 19)5)

It becomes very difficult to subscribe to the DEIS arguments when the definitions are not precise. For this discussion, let us use a definition of range of variability as found in the 2000 NFMA regulations (currently in stasis due to the administration's politics). The definition may be instructive to the writers of the DEIS. Range of variability is defined here at Sec. 219.36 as:

"The expected range of variation in ecosystem composition, and structure that would be expected under natural disturbance regimes in the current climatic period. These regimes include the type, frequency, severity, and magnitude of disturbance in the absence of fire suppression and extensive commodity extraction."

Current climatic period is further defined as:

> "The period of time since establishment of the modem major vegetation types, which typically encompass the late Holocene Epoch including the present, including likely climatic conditions within the planning period. The climatic period is typically centuries to millennia in length, a period of time that is long enough to encompass the variability that species and ecosystems have experienced." (Id.)

To paraphrase the definition, for a project to claim that an area is outside of the range of variability, according to the 2000 NFMA definition, it would need to make the case that the area has not seen current conditions in a length of time encompassing the late Holocene Epoch- a period of centuries to millennia in length. The DEIS utterly fails to make the case that the current vegetative condition failed to exist at any time within the late Holocene Epoch.

Response 13-29.Vegeation, HRV, characterizing conditions

A characterization of range of variability within a given time scale requires historical data with enough statistical integrity to be meaningful. Although there are a few historical records, comparing those records with the current data set is arbitrary at best due to changing definitions of terms. At best, those records extend back to 1860. Therefore, to attempt to manage within the range of the Holocene Epoch would encompass such fluctuation and variability as to be meaningless. This project is not based on range of variability and does not rely on conjecture as to the former vegetative state of the area. Instead, the treatments proposed are designed to promote the health and vigor of timber stands and improve the environment for long-lived, fire resistant species.

The DEIS' s apparent definition of HRV seems very narrow, without conclusive justification and focusing mainly on ponderosa pine types. The SFLA notes much of the analysis area is outside the HRV and the DEIS implies this is because of fire suppression (NOTE: The SFLA is not completely clear on the current conditions and their causes, there is equivocation and inconsistency in that document) yet it would seem the DEIS maintains that the big fires of the early 1900s, natural events as far as we know, put this area outside the HRV. Thus, it would appear the HRV ought to be able to account for these events.

What range of time is being used to determine HRV and is it long enough to be accurate? What proof is there to refute scientific findings that forest conditions in 1850 or 1~ were only a few frames and not representative of an ecological perspective that should be from two to three thousand years in length (see Walder 1995 and Johnson et. al 1994)?

Response 13-30. Vegetation, HRV.

See Response 13-29.
A review of recent literature which documents vegetative changes during the Holocene Epoch (Brunelle and Whitlock 2002, Mayewski, et al 2004 Davis et al 2002) that wide fluctuations have occurred in species composition, density, and fire regimes. The purpose and need (DEIS I-3) does not use HRV as an analysis parameter.

In the mid-1800s, the event known as the Little Ice Age was ending. It may be that climatic change made conditions for fires like those in the early l900s which to occur and become the major determinants *of* the landscape *of* today. It is also possible that fires like those in the past century occurred on more than one occasion since the retreat of the glaciers. Paleoecological research shows the importance of climate change in governing vegetation (Webb and Bartlein 1992).

Vegetation changes seem to lag behind climate change (Johnson et aI. 1994). When looking at the bigger picture that takes into account climatic shifts, and not some narrow, snapshot-in-time view, the concept of a normal fire frequency may not be valid. (Walder 1995). Research being conducted by Grant Meyer and others on the Boise National Forest shows this to be the case. In that case, it appears big stand replacing events occurred in ponderosa pine forests between 900 and 1200 due to climatic conditions.

Given climate change and the very real possibility that site potential for various types have changed (soil pH and chemistry, moisture, soil temperature) because of it, the view of HRV on anything less than a time scale that takes into account climate shifts may be inadequate. That is especially true given the dramatic and scientifically documented increases in global temperature over the past few years. The past decade was the warmest on record. Again, the DEIS and supporting documents do not define the HRV so it is impossible to assess the assumptions behind the HRV.

Questions need to be asked about the effects of climate change, logging, and fire suppression in this area (assuming, of course, the attitude of the agency that massive vegetation change is needed, which, as we have detailed, the DEIS is schizophrenic). It is possible that all have irrevocably altered site potential.

For example, Tiedemann et. al. (2000) challenge the use of "historic range of conditions" and call into question the whole notion that we can, or even should, try to replicate such conditions by stating:

"Nearly 100 years of fire exclusion, possible climate changes, and past management practices may have caused these communities to cross thresholds and to reside now in different steady states."

It may be impossible to differentiate between the roles played by climate change and fire suppression. Some research suggests that the effects of both may be similar.

Response 13-31. Fire, fuels, climate change fire suppression.

This discussion draws upon Mote et al., 2003.

The cumulative effects of climate change, fire suppression, and short-term climatic variability can interact to result in altered fire regimes, over which management may have little control, and our ability to predict such changes at a local scale must be considered tentative. Historically, sever fire years tended to occur synchronously over large areas, coinciding with regional drought periods (Barrett et al., 1997). Drought effects were strongly influenced by more variable factors including large dry-lightning storms that produced mass ignitions, and occurrence of strong winds during fire events.

If we experience a trend toward warmer, wetter conditions, as several climate models suggest, but with the increased precipitation occurring in primarily in the winter, there would be more severe summer moisture deficits. These may control species distribution, productivity, and fire regimes. If prolonged seasons of moisture deficits occur over a wider area, larger areas could be prone to lethal fire, at least until species and stand structure equilibrate to more frequent fire, assuming both frequency and intensity of drought increase. Changes in wind, insects, and disease are also likely, probably in the direction of increased drought stress and more susceptibility to pathogens.

This project considers the direction of those changes in deciding species of trees to favor in management, and stand structures that would be resistant to increased likelihood of seasonal moisture deficits. The emphasis on maintenance of Douglas fir, ponderosa pine, and western larch and more open stand structures is in accord with such a strategy.

Helping forests to adapt to climate variation and climate change means we must keep connectivity of species and gene pools across wide areas, so there are not barriers to migration. This means maintaining species distribution and abundance across landscapes, and providing for both incremental and reset events that support gradual shifts in species dominance or migration to newly suitable habitats. Use of fire and judicious harvest may help in this regard.

Any forest condition that is maintained through intense mechanical manipulation is not maintaining ecosystem function. We request site-specific disclosure of the historical data used to arrive at any assumption of "desired conditions." We don't believe the proposed management activities are designed to foster the *processes* that naturally shaped the ecosystem and resulted in a range of natural structural conditions, they are merely designed to recreate what the agency believes were structural *conditions in a single point* in time that the FS considers "natural." Generally, past process regimes are better understood than past forest structure. How are you factoring in fire, insects, tree diseases, and other natural disturbances in specifying the structural conditions you assume to be representative of the historic range?

In attempting to replicate some as yet to be defined HRV, the DEIS adopts a strategy nearly identical to the logging of the past which resulted in forest fragmentation and the conditions of today. In other words, the DEIS grudgingly acknowledges that logging and road building has led to the problem (although the emphasis seems to be on fire suppression, the effects of which are not clear for most of the Red River and South Fork drainages) yet proposes the solution to be more logging and road building.

The assumptions about vegetation, pre-l900s and fire frequency may be incongruous. In other words, it seems a bit of a stretch for the landscape and seral stages to be what they supposedly were pre-l900 under the fire regimes and other physical factors supposedly present in the South Fork. Stochastic modeling could give an idea if that is indeed the case.

The same kind of modeling could also give us an idea of the time frames it would take, under the various alternatives, for the South Fork to regain the HRV the agency says the ecosystem previously operated within (again, that HRV would have to be defined). In other words, will the proposed treatments indeed emulate natural processes prevent stand-replacing fire when natural processes didn't do so in the early 1900s (long before massive logging or so-called fire suppression), the very events that created the stands of lodgepole that are the focus of concern?

It is also ironic that here, in Red River, that the agency wants to convert some lodgepole pine to ponderosa and larch because the latter two are disease resistant when elsewhere, on the adjacent Clearwater National Forest in the upper Lochsa, the goal is to create more lodgepole pine because they are disease resistant. (see Beaver Triangle EA, 2004).

Some species of trees, native insects, and disease organisms are often described by the FS as "invasive or somehow bad for the ecosystem. Such contentions that conditions are somehow "unnatural" runs counter to more enlightened thinking on such matters. For example, Harvey et al., 1994 state:

> Although usually viewed as pests at the tree and stand scale, insects and disease organisms perform functions on a broader scale.
>
> ...Pests are a part of even the healthiest eastside ecosystems. Pest roles-such as the removal of poorly adapted individuals, accelerated decomposition, and reduced stand density-may be critical to rapid ecosystem adjustment
>
> ...In some areas of the eastside and Blue Mountain forests, at least, the ecosystem has been altered, setting the stage for high pest activity (Gast and others, 1991). This increased activity does not mean that the ecosystem is broken or dying; rather, it is demonstrating functionality, as programmed during its developmental (evolutionary) history.

The FS often makes a case for logging as a way to reduce insect and disease damage to timber stands. As far as we are aware, the FS has no empirical evidence to indicate its "treatments" for "forest health" decrease, rather than increase, the incidence of insects and diseases in the forest. Since the FS doesn't cite research that proves otherwise in this DEIS we can only conclude that "forest health" discussions are unscientific and biased toward logging as a "solution." Please consider the large body of research that indicates logging, roads, and other human caused disturbance promote the spread of tree diseases and insect infestation.

For example, multiple studies have shown that annosus root disease (Heterobasidion annosum, formerly named Fomes annosus), a fungal root pathogen that is often fatal or damaging for pine, fir, and hemlock in western forests, has increased in western forests as a result of logging (Smith 1989). And researchers have noted that the incidence of annosus root disease in true fir and ponderosa pine stands increased with the number of logging entries (Goheen and Goheen 1989). Large stumps served as infection foci for the stands, although significant mortality was not obvious until 10 to 15 years after logging (Id.).

The proportion of western hemlock trees infected by annosus root disease increased after precomrnercial thinning, due to infection of stumps and logging equipment wounds (Edmonds et al. 1989, Chavez, et al. 1980).

Annillaria, a primary, aggressive root pathogen of pines, true firs, and Douglas-fir in western interior forests, spreads into healthy stands from the stumps and roots of cut trees (Wargo and Shaw 1985). The fungus colonizes stumps and roots of cut trees, then spreads to adjacent healthy trees. Roots of large trees in particular can support the fungus for many years because they are moist and large enough for the fungus to survive, and disease centers can expand to several hectares in size, with greater than 25% of the trees affected in a stand (id.). Roth et al. (1980) also noted that Annillaria was present in stumps of old-growth ponderosa pine logged up to 35 years earlier, with the oldest stumps having the highest rate of infection.

Filip (1979) observed that mortality of saplings was significantly correlated to the number of Douglas-fir stumps infected with Armillaria mellea and laminated root rot (Phellinus weirii). McDonald, et al. (1987) concluded the pathogenic fungus Annillaria had a threefold higher occurrence on disturbed plots compared to pristine plots at high productivity sites in the Northern Rockies. Those authors also reviewed past studies on Armillaria, noting a clear link between management and the severity of Armillaria-caused disease.

Morrison and Mallett (1996) observed that infection and mortality from the root disease Annillaria ostoyae was several times higher in forest stands with logging disturbance than in undisturbed stands, and that adjacent residual trees as well as new regeneration became infected when their roots came into contact with roots from infected stumps.

Precommercial thinning and soil disturbance led to an increased risk of infection and mortality by black-stain root disease (Leptographium wageneri) in Douglas-fir, with the majority of infection centers being close to roads and skid trails (Hansen et al. 1988). Also another Black-stain root disease (Verticicladiella wagenerii) occurred at a greater frequency in Douglas-fir trees close to roads than in trees located 25 m or more from roads (Hansen 1978). Witcosky et al. (1986) also noted that precommercially thinned stands attracted a greater number of black-stain root disease insect vectors.

Complex interactions involve mechanical damage from logging, infestation by root diseases, and attacks by insects. Aho et at. (1987) saw that mechanical wounding of grand fir and white fir by logging equipment activated dormant decay fungi, including the Indian paint fungus (Echinodontium tinctorium).

Response 13-32. Silviculture, research, timber harvest, disease.

The purpose of the project is to reduce existing and potential forest fuels, create conditions that will contribute to sustaining long-lived fire tolerant tree species (ponderosa pine, western larch). Refer to DEIS I-2, I-3.

Comment acknowledged. See purpose and need discussion DEIS, pp. I-2 through I-3. The purpose of this project is to reduce fuels and improve human safety.

The stands proposed for treatment are susceptible and contain some of the pathogens and insects described. Most have a negative growth value (more dying than growing) and are in a state of decline. The purpose of the project is to reduce existing and potential forest fuels, create conditions that will contribute to sustaining long-lived fire tolerant tree species (ponderosa pine, western larch). Refer to FEIS, Chapter 1, Section 1.5.5. Ponderosa pine and western larch are the forest tree species most resistant to fire, insects, and diseases found in the project area.

Trees stressed by logging, and therefore more susceptible to root diseases are, in turn, more susceptible to attack by insects. Goheen and Hansen (1993) reviewed the association between pathogenic fungi and bark beetles in coniferous forests, noting that root disease fungi predispose some conifer species to bark beetle attack and/or help maintain endemic populations of bark beetles.

Goheen and Hansen (1993) observed that live trees infected with Laminated root rot (Phellinus weirii) have a greater likelihood of attack by Douglas-fir beetles (Dendroctonus pseudotsugae). Also, Douglas- fir trees weakened by Black-stain root disease (Leptographium wageneri var. pseudotsugae) are attacked and killed by a variety of bark beetle species, including the Douglas-fir bark beetle (D. pseudotsugae) and the Douglas-fir engraver (Scolytus unispinosis) (id.).

The root disease Leptographium wageneri var. ponderosum predisposes ponderosa pine to several bark beetle species, including the mountain pine beetle (D. ponderosae) and the western pine beetle (D. brevicomis) (Goheen and Hansen 1993).

A variety of root diseases, including black-stain, Armillaria, and brown cubical butt rot (Phaeolus schweinitzii), predispose lodgepole pine to attack by mountain pine beetles in the interior west. The diseases are also believed to provide stressed host trees that help maintain endemic populations of mountain pine beetle or trigger population increases at the start of an outbreak (Goheen and Hansen 1993).

Grand and white fir trees in interior mixed-conifer forests have been found to have a high likelihood of attack by the fir engraver (Scolytus ventralis) when they are infected by root diseases, such as laminated root rot, Armillaria, and annosus (Goheen and Hansen 1993).

More western pine beetles (Dendroctonus brevifonnis) and mountain pine beetles (D. ponderosae) were captured on trees infected by black-stain root disease (Ceratocystis wageneri) than on uninfected trees (Goheen et at. 1985). The two species of beetle were more frequently attracted to wounds on trees that were also diseased than to uninfected trees. They also noted that the red turpentine beetle (Dendroctonus valens) attacked trees at wounds, with attack rates seven-to-eight times higher on trees infected with black-stain root disease than uninfected trees. Spondylis upifonnis attacked only wounded trees, not unwounded trees (Id.).

The fact that areas may have missed some fire cycles may not be important at all for a couple of reasons. First, is the predominance of lethal fire in the area like in 1910 which sets the successional stages at levels far different than those the agency claims are historic (see DEIS map). This is true for ponderosa pine types as well in this area which tend to be a bit wetter than the more typical ponderosa pine types further south (NOTE: The SFlA and DEIS admits the ponderosa pine type was not as common in the South Fork and that lodgepole type is much more common than ICBEMP would lead one to believe). Second, is the fact that these cycles are not hard and fast This second question we address briefly below.
Other models of fire regimes need to be considered. Some research suggests, even in the most studied ponderosa pine fire types that fire return intervals are far from certain and may be far different (if valid at all) than previously believed. Baker and Ehle (2001) note in the abstract of their recent peer-reviewed paper note:

> "Present understanding of fire ecology in forests subject to surface fires is based on fire-scar evidence. We present theory and empirical results that suggest that fire-history data have uncertainties and biases when used to estimate the population mean fire interval (FI) or other parameters of the fire regime. First, the population mean FI is difficult to estimate precisely because of unrecorded fires and can only be shown to lie in a broad range. Second, the interval between tree origin and first fire scar estimates a real fire-free interval

Response 13-33. fire, fire regime models, fire intervals.

The focus of the paper by Baker and Ehle was on nearly pure ponderosa forest, which makes up a small portion of the project area. They state in their paper that mean fire intervals based on fire scar data may have uncertainties and biases and actually lead to longer fire intervals than previously thought. They also state that fires are also unrecorded upon some trees (i.e. no fire scar), "Trees are often charred by a surface fire, but fires do not always leave scars in particular areas or even a whole stand, so fires may be unrecorded in fire scars", "It is uncertain for example, whether a tree without a scar did or did not burn in a fire that scarred nearby trees", and "The abundance of unrecorded fires is largely unknown." This lack of an evident fire scar may actually lead to inferring a longer fire interval than occurred, which is contrary to their theory about fire intervals.

While Baker and Ehle suggest that there may be uncertainties in the use of fire scars to determine fire intervals, they do not offer any suggestions to reduce or mitigate these biases other than bracketing fire intervals, which is what we have done in using fire regimes and an associated range of fire intervals (ex. 75-150 year for infrequent fire regimes) for this project.

An important adjunct of fire scar studies is tree age plots at fixed intervals to characterize stand-replacing fires. We have analyzed thousands of plots by habitat type group and vegetation response unit (VRU) to derive local characterizations of presettlement fire regimes (data on file at forest headquarters).

that warrants inclusion in mean-FI calculations. Finally, inadequate sampling and targeting of multiple-scarred trees and high scar densities bias mean FIs toward shorter intervals. In ponderosa pine (Pinus ponderosa Dougl. ex P. & C. Laws.) forests of the western United States, these uncertainties and biases suggest that reported mean FIs of 2-25 years significantly underestimate population mean FIs, which instead may be between 22 and 308 years. We suggest that uncertainty be explicitly stated in fire-history results by bracketing the range of possible population mean FIs. Research and improved methods may narrow the range, but there is no statistical or other method that can eliminate all uncertainty. Longer mean FIs in ponderosa pine forests suggest that (i) surface fire is still important, but less so in maintaining forest structure, and (ii) some dense patches of trees may have occurred in the pre- Euro-American landscape. Creation of low-density forest structure across all parts of ponderosa pine landscapes, particularly in valuable parks and reserves, is not supported by these results."

Given this research, the concept of HRV may not be valid. In fact, the agency needs to take a look at all the assumptions behind the HRV and compare them with the differences in the scientific literature.

Baker and Ehle paper calls into question the use of fire scars in establishing mean fire intervals and suggests that previous reports based upon fire scars may be biased. Most research, including that in the supporting documents for the Red River, is based upon fire scars.

Regardless of whether Baker and Ehle are right, those using fire scars to establish fire regimes are right, none are right, or all have validity, the fact remains these scientists appear to have somewhat different view of ponderosa pine systems, or at least what we think we know about them. The same questions about fire scars need to be asked about other forest types as well. This should have been fully recognized and evaluated in the DEIS.

What peer-reviewed scientific studies done on a site-specific basis in this area refute a plethora of scientific studies and papers, including studies by the agency's own scientists, which note that most northern Rocky forests, including most of the types found in this analysis area are within healthy HRV,? (see Turner and Romme 1994, Hutto 1995, Barrett et aI. 1991, Weir et aI. 1995, Ament 1997). What scientific evidence refutes the findings in Ament (1997) where he quotes from Hutto (1995), that, "the origin of most Rocky Mountain forest stands can be traced to stand-replacement fires" instead of "mild understory bums?" What evidence is there that refutes the plethora of agency studies, including the agency's own fire categories, that stand-replacement fire is nonnal for many forest types'?

Many timber sales in the past few years in the interior West has claimed a need to return conditions to a "pre-settlement" status. We question the authenticity of this model and cite two references that seem to refute the idea that our forests were far more open. The John Lieberg reports, 1897-9, part of the US Geological Surveys of the 1890's indicate stand densities, species by type and size, and contain photographs and descriptions of forest reserves in North Idaho, including the Priest River, Bitterroot and Coeur d'Alene areas (NOTE the old Bitterroot Reserve includes most of the present-day Nez Perce National Forest). They clearly show high stem densities, many snags and burnt areas and few open stands. The Skovlin and Thomas report Interpreting Long-Term Trends in Blue Mountain Ecosystems from Repeat Photography, Pacific Northwest Research Station PNW GTR-315, June 1995, shows many photos from 60-80 years ago with stands that are very dense, as well as many stands that appear to be recently burned. In the case of both the USGS John Lieberg reports and the Blue Mountain report there is little evidence of the widely spaced forest that current Forest Service timber sales are trying to attain. We believe the bias toward logging has unduly influenced forest management and that an honest appraisal of stand succession, historic processes and desired future condition must be made.

Response 13-34. fire, fuels, vegetation, fire scars and fire regimes

The focus of the paper by Baker and Ehle was on nearly pure ponderosa forest, which makes up a small portion of the project area. Ponderosa pine systems are of very limited extent in the project area.

Fire scar studies must be combined with landscape scale age-class studies to understand fire regimes and fire patterns in areas of mixed and lethal fire such as the project area. This has been done in the course of preparation of the South Fork, Selway, and Slate Creek assessments (USDA FS, 1997, 1998, 2001), in which thousands of timber stand exam plots were analyzed for evidence of non-lethal, mixed severity, or lethal fire. We summarized these data by Vegetation Response Unit and the inferred fire regimes are presented in those assessments by VRU. Fire ecology compilations such as Kapler-Smith and Fischer (1997) were also used to validate these interpretations, and traditional fire scar studies were used in areas of frequent low severity fire.

Baker and Ehle state in their paper that mean fire intervals based on fire scar data may have uncertainties and biases and actually lead to longer fire intervals than previously thought. They also state that fires are also unrecorded upon trees (i.e. no fire scar), “Trees are often charred by a surface fire, but fires do not always leave scars in particular areas or even a whole stand, so fires may be unrecorded in fire scars”, “It is uncertain for example, whether a tree without a scar did or did not burn in a fire that scarred nearby trees”, and “The abundance of unrecorded fires is largely unknown.” This lack of an evident fire scar may actually lead investigators to infer longer fire intervals than actually occurred.

Additionally, while Baker and Ehle suggest that there may be uncertainties in the use of fire scars to determine fire intervals, they do not offer any suggestions to reduce or mitigate these biases other than bracketing fire intervals, which is what we have done in using fire regimes and an associated range of fire intervals (ex. 75-150 year for infrequent fire regimes) for this project.

The DEIS indicates that large stand-replacing fires are not desired. Yet, they were in the range of variability and the DEIS seeks to replay the lodgepole pine cycle.

The attempts at breaking up the landscape to prevent or reduce large, stand-replacing fires may be useless. If not, there is no real need to create anymore breaks in the landscape as any aerial photograph or satellite imagery will attest much has already occurred in those two drainages.

One of the major assumptions in the DEIS is that the no action alternative will increase the probability of stand-replacing fires. Yet, that assumption is not quantified. What will it do, increase it by 1%,50% or 90%? Without some quantification, so-called stand-replacing fire prevention under the various action alternatives is meaningless.

Response 13-35. fire replacement fires are normal
See Response 13-34.

Stand replacing fire, and the pulse watershed responses that ensue, are intrinsic to historic and projected fire activity in the Red River watershed. The FEIS Chapter 1 - Conditions Contributing to the Purpose and Need for Action, describes vegetation changes associated with past fire suppression, succession, and mountain pine beetle activity. These are believed to contribute to an enhanced potential for transition from a ground fire to a crown fire, which could contribute to increased fire size or severity under moderate burning conditions, and increased difficulty of suppression. Current developing fuel conditions may have occurred historically in these fire regimes, but the with the proximity to Elk City and other residences and developments, large fires may not be socially acceptable due to possible loss of life, property and/or resources. Additionally, with no Wildland Fire Use plan for the project area, the Forest Plan requires that suppression actions take place to control all new fire starts within the project area. This sets a management context under which some harvest and fuel reduction could be designed to increase fire suppression effectiveness under moderate burning conditions (Finney, 2001). A robust program of watershed improvements (see Appendix H) should help improve resiliency to fire when one does occur.

Quantifying the probability of a stand replacing fire occurrence is impossible without specifying climate, ignition, burning weather and time frame. Without those parameters, it can be assumed that the probability of a stand replacing fire occurring under normal conditions would be 100%. The estimate that the no-action alternative would increase the probability of stand-replacing fire is based on the premise that strategic placement of fuel reduction areas in relation to existing areas of low potential for fire spread or low resistance to control can help fire suppression be more effective, which could prevent a small fire from becoming large, if burning conditions are not severe (Finney, 2001). This is described in the fire section 3.7 of Chapter III in the FEIS.

Furthernore, the DEIS fails to analyze some important findings about logging and fire. Both the Sierra Nevada and Interior Columbia Basin Ecosystem Management Projects found that logging was a major reason for increased intensity and severity of wildland fire. Della Sala et al (1995 and 1995a) and Henjum et al.(l994) agree that scientific evidence does not support the hypothesis that logging, thinning, minimize the effects of fire

Response 13-35a. fire intensity, logging.

This is a complex issue and it is important to examine findings in the context of biophysical setting and management history. Factors associated with increased likelihood of high-intensity fire in managed forests include some appropriate to this project area. For example, harvest-created fuels will add to the fuel load for a short period until slash treatments are complete, adding to the risk of locally severe fire effects under severe burning conditions. However, some findings are more associated with low elevation forests, in formerly frequent fire regimes, where past harvest has reduced stand resistance to fire by removing the fire tolerant trees and leaving younger and more fire sensitive species (Quigley and Arbelbide, 1997: McKelvey et al., 1996), and leaving slash untreated. Weatherspoon (1997) compared fire and fire surrogates (logging and prescribed fire) for their ecological effects. Many important questions remain unanswered, even in the low elevation frequent fire regimes. Designed studies and modeling, as well as fire case studies, have provided some insights. Schoennagel et al. (2004) conclude that severe fires at long intervals in lodgepole and spruce-fir forests are weather driven and not by fuels, stand age, or fire-fighting activities. These fire situations are not those being addressed by this project. In mixed severity regimes, or under moderate burning conditions, climate and fuels interact in a complex manner. Using the Hayman fire as an example, reviewers found that during severe burning weather, most fuel treatments had little impact on the severity or direction of fire (Finney et al., 2003), especially if area of fuel treatment was small. During moderate weather, fuel modifications did influence fire spread and severity. Agee et al. (2000) present a reasoned discussion of the utility and limitations of fuel breaks in affecting fire behavior.

That leads to another issue. Lodgepole pine (in fire groups three and four, see Smith and Fischer 1997) are in stand-replacing fire regimes (Cooper et al. 1991, Barrett 1982 and Green 1994 in Smith and Fischer 1997). Research from lodgepole pine in Yellowstone found stand-replacing or severe fires are a function of weather, not fuel load (Turner et al. 1994). This contradicts the main assumption in the DEIS.

The DEIS, in one of its schizophrenic incarnations, presents a version of history that is speculative, at best, given the information--the science is not definitive on historical conditions, though the DEIS pretends it is in certain instances. The belief that small, cool fires shaped the landscape of the Red River is not consistent with the data, especially the events on the early 1900s. The belief that fire suppression everywhere had led to hotter fires currently is not consistent with the bum intensity and severity of recent fires (see for example, the Poet and Slims fire BAER report). Even if it were true fires are burning hotter now, there is considerable evidence it is because of climate change, not fuel amounts.

It is difficult to evaluate the impacts on vegetation because of the confusing array of habitat or vegetation typing the agency conducts. HTGs and VRUs don't correlate well and none of them fit in with the habitat types found in agency literature on fire regimes (see Smith and Fischer 1997).

Regardless of the current condition of the Red River and South Fork drainages, the agency would say it is somehow out of whack and prescribe logging as the cure. The simple matter of fact is, prior to the Rey/Craig dog and pony show in Grangeville in 2003, there was no plan on this scale to log this area. Such plans were limited to salvage operations. The so-called reasons for logging are based upon politics, not science, and that should be made clear in the DEIS as the decision to log and build roads is a social one, not a scientific one.

Response 13-35b. fuels, fire groups.

Climate and fuels are closely related when discussing them in the context of fire behavior. Climate can drive the fuels in availability for combustion, resulting flame length and heat output, and future fuel loadings.

The cumulative effects of climate change, fire suppression, and short-term climatic variability can interact to result in altered fire regimes, over which management may have little control. Variations in climate are strongly correlated over a wide region, so that historically severe fire years tended to occur synchronously over large areas, coinciding with regional drought periods (Barrett et al., 1997). Drought effects were strongly influenced by more variable factors including large dry-lightning storms that produced mass ignitions and occurrence of strong winds during fire events. If we experience a trend toward warmer, wetter conditions, as several climate models suggest, but with the increased precipitation occurring in primarily in the winter, there would be more severe summer moisture deficits. If prolonged seasons of moisture deficits occur over a wider area, larger areas could be prone to lethal fire, at least until species and stand structure equilibrate to more frequent fire, assuming both frequency and intensity of drought increase. Changes in wind, insects, and disease are also likely, probably in the direction of increased drought stress and more susceptibility to pathogens, which result in increased fuel loadings.

Healthy, vigorous stands of lodgepole pine generally have a high crown height with little surface fuels and are typically classified as a fuel model 8. These stands do require extreme weather conditions to create fire intensities hot enough to transition from a surface fire to a crown fire. Historically these stands would have had fires occurring during both extreme and normal weather conditions. During the normal weather conditions fires would have burned with low enough intensity to prevent transition from surface to crown fire, these low intensity fires would have reduced the surface fuel loading within the stands. During the extreme weather conditions those surface fires would have enough intensity to transition to crown fires even with low fuel loadings due to the fact that fuels were dryer and produced more energy during combustion.

With the mountain pine beetle epidemic occurring in the project area, and no natural mechanism for removal of fuel accumulations due to fire suppression requirements in the project area, these are no longer healthy stands with little surface fuels, but rather are stands that already have high fuel loadings or will have high fuel loadings as dead trees start to fall over, and are or soon will become classified as being fuel model 10 or 13. Because of these higher fuel loadings, a fire burning in these stands will burn with a greater intensity under less than extreme weather conditions due to the amount of energy created when more fuel is consumed during combustion. These higher intensities result in higher flame lengths and heat produced which will allow for a surface fire to more easily transition to a crown fire under more normal weather conditions. Please refer to the fuel model discussion in the fire/fuels section of the FEIS for further discussion of the fuel models within the project area.

We request the FS adopt the Restoration Principles (DellaSala, et al., 2003) as a screen for proposed actions such as this one. We incorporate them by reference into this DEIS comment.

Response 13-36. Vegetation
Comment acknowledged.

DellaSala, Dominick A., Anne Martin, Randi Spivak, Todd Schulke, Bryan Bird, Mamie Criley, Chris van Daalen, Jake Kreilick, Rick Brown, and Greg Aplet, 2003. *A Citizen's Call for Ecological Forest Restoration: Forest Restoration Principles and Criteria.* Ecological Restoration, Vol. 21, No.1, 2003 ISSN 1522~4740.

We have reviewed the above-mentioned article and, while the project incorporates some elements of restoration regarding vegetation composition and structure, use of prescribed fire and watershed improvements, the project is primarily intended to reduce vegetative fuels and improve human safety. Refer to purpose and need (pp.I-2 through I-3). Elements of the checklist would be considered and applied to future restoration projects as applicable.

Goals for the area include fully functioning stream ecosystems that include healthy, resilient populations of native trout and salmon. The highest priority management actions in the project area are those that remove impediments to natural recovery. The task of management should be the reversal of artificial legacies to allow restoration of natural, self-sustaining ecosystem processes. If natural disturbance patterns are the best way to maintain or restore desired ecosystem values, then nature should be able to accomplish this task very well without human intervention (Frissell and Bayles, 1996). That is why we requested a real restoration alternative that did not log or build roads.

We conclude this section of the comment letter with this passage from Frissell and Bayles (19%):

> Most philosophies and approaches for ecosystem management put forward to date are limited (perhaps doomed) by a failure to acknowledge and rationally address the overriding problems of uncertainty and ignorance about the mechanisms by which complex ecosystems respond to human actions. They lack humility and historical perspective about science and about our past failures in management. They still implicitly subscribe to the scientifically discredited illusion that humans are fully in control of an ecosystemic machine and can foresee and manipulate all the possible consequences of particular actions while deliberately altering the ecosystem to produce only predictable, optimized and socially desirable outputs. Moreover, despite our well-demonstrated inability to prescribe and forge institutional arrangements capable of successfully implementing the principles and practice of integrated ecosystem management over a sustained time frame an at sufficiently large spatial scales, would be ecosystem managers have neglected to acknowledge and critically analyze past institutional and policy failures. They say we need ecosystem management because public opinion has changed, neglecting the obvious point that public opinion has been shaped by the glowing promises of past managers and by their clear and spectacular failure to deliver on such promises.

Response 13-37. Alternatives. restoration, no roads.

See Responses 1-3, 2-5, and 4-6.

SFLA

The DEIS is not clear how the assumptions made in the SFLA and other documents were derived. For example, the SFLA reaches some different site-specific conclusions about extent of certain habitat types (and therefore, about fire regimes) in the South Fork Clearwater than does ICBEMP. However, neither the SFLA nor DEIS explain the site-specific science behind those differences.

The DEIS does not explain the mapping differences between fire regimes between it and the SRA, though minor, and the assumptions behind the departure from historic. Without this information, it is impossible to test the validity of the assumptions made in the DEIS.

Response 13-38. SFLA. Vegetation, Habitat types, fire regimes and SRA

The modest inconsistencies are due to the methods of deriving fire regimes. In both analyses, combinations of potential vegetation and terrain setting were used with a rule set to estimate historic fire regimes. In the case of the South Fork Landscape Assessment (SFLA), the resultant maps were refined using site-specific potential vegetation data where they were available.

In the case of the Red Pines Project, no site-specific corrections were made. Both these and the historic fire regimes derived for the Idaho Cohesive Strategy (http://www.fs.fed.us/r4/id_fire_assessment/id_haz_risk_review.html), which will replace in the FEIS data used for the DEIS, are based on modeling of potential vegetation, and the use of rule sets to derive fire regimes. The Forest and Idaho-scale processes are likely to result in differing fire regime assignments and could affect consequent estimation of fire regime condition class. Recognition of variability in these areas of mixed and lethal fire, and landscape and stand-specific evaluations, are important to interpreting existing condition with respect to historic process.

Weeds

The section on weed spread clearly indicates that the action alternatives would cause significant increases in these exotic species. The DEIS also claims that various HTGs are different susceptibility to weeds. It does not, however, clearly indicate what HTGs are being logged or roaded so it is difficult if not impossible to determine what the potential impacts of weed spread are from the various alternatives.

Response 13-39a weeds.

Significant increases in weeds are not stated or assumed in the DEIS. The Design and Mitigation Measures (Chapter II, pages 11-17 and 11-22) and monitoring (Appendix I, page 4) of the DEIS will reduce or eliminate the potential increase of weed spread.

HTGs are only used to determine the susceptibility of habitat. Susceptibility is used with other factors, such as the presence or absence of weed populations, vectors and disturbance to determine the risk of weed invasion. A more detailed explanation of habitat susceptibility and risk of weed expansion is provided in the Weeds section on pages III-189 and III-190 of the DEIS. Management activities are overlaid on a map of weed risk expansion risk to show which activities are proposed in the various risk zones. This is provided in the DEIS as Map 11. In addition the acres of each activity to occur in each weed risk zone are provided in Table III-50 on page III-193 of the DEIS.

Furthermore, if the areas targeted to be logged are HTGs or VRUs (or whatever habitat/land typing is used) with little chance of weed spread, that should be shown. There is an interesting correlation between those types and infrequent but lethal fire regimes.

Response 13-39b. weeds, HTG, VRU

Areas that are closed to weeds or of low weed risk are indicated on the Map 11, which shows the relative weed risk zones for the project area. Map 11also shows management activities that occur in the various weed risk zones. Habitats that are closed to or have a low risk of weed invasion are typically mesic, mixed forest types that are not as conducive to weed presence and are characterized by infrequent, but lethal fire.

Nevertheless, the DEIS fails to note that HTGs (or VRUs or whatever habitat typing is used) can be influenced by roads. Roads change the habitat and make vectoring of weeds possible in areas where they were not found before. Clearcutting and logging can affect the micro-site and make it better for weeds to thrive.

Response 13-39c HTGs determine habitat susceptibility to weed invasion. This susceptibility to weed spread along with roads (vectors) and other factors such as disturbance and weed presence combine to give the relative risk of weed invasion. The discussion of weed risk can be found on page III-190 and 191 of the DEIS. This discussion also includes information on the function of the roads (vectors) and disturbance agents on the risk of weed spread.

Wildlife/Old Growth

The fact that the Nez Perce NF has not monitored the population trends of its old-growth management indicator species (MIS) as required by the forest plan bears important mention here (this is also true for most other MIS, with the possible exception of big game, including aquatic species and this section applies to those species as well).

Response 13-40. Wildlife, old growth, MIS
A Terrestrial Wildlife Species Viability Analysis for the Red Pines project is included in the project file.

The Nez Perce NF has failed to insure viability of MIS and TES species to date. The monitoring reports from FaC to the Nez Perce National Forest (referenced in this comment) bear this out.

Response 13-40a.
See Response to Comment 13:41.

Unfortunately, region-wide the FS has failed to meet Forest Plan old-growth standards, does not keep accurate old-growth inventories, and has not monitored population trends in response to management activities as required by Forest Plans and NFMA (Juel, 2003).

Response 13-40b.
See response to Comments 14-70, 14-71, 14-72, 14-73, and 14-74.

For the proposal to be consistent with the Forest Plan, enough habitat for viable populations of old-growth dependent wildlife species is needed over the landscape. Considering potential difficulties of using population viability analysis at the project analysis area level (Ruggiero, et. al., 1994), the cumulative effects of carrying out multiple projects simultaneously across the Nez Perce NF makes it imperative that population viability be assessed at least at the forestwide scale (Marcot and Murphy, 1992). Also, temporal considerations of the impacts on wildlife population viability from implementing something with such long duration as a Forest Plan must be considered (id.) but this has never been done by the Nez Perce NF. It is also of paramount importance to monitor population trends (as mandated by the Forest Plan) during the implementation of the Forest Plan in order to validate assumptions used about long-term species persistence i.e., population viability (Marcot and Murphy, 1992; Lacy and Clark, 1993).

Response 13-41 Wildlife, Forest plan, population viability.
A viability analysis was prepared for the DEIS and was placed in the project file (DEIS page III-245). The FIES also includes a terrestrial viability analysis in the project file.

An analysis of terrestrial species population viability has been prepared and is available in the project files. This analysis incorporates landscape and local habitat information as well as a summary of MIS populations monitoring data & trends from the Forest Plan Monitoring & Evaluation Reporting required by the Forest Plan. For some species, a Regional assessment was summarized.

State-of-the-art conservation biology and the principles that underlie the agency's policy of "ecosystem management" dictate an increasing focus on the landscape-scale concept and design of large biological reserves accompanied by buffer zones and habitat connectors as the most effective (and perhaps only) way to preserve wildlife diversity and viability (Noss, 1993).

The FS has stated: "Well distributed habitat is the amount and location of required habitat which assure that individuals from demes distributed throughout the population's existing range, can interact. Habitat should be located so that genetic exchange among all demes is possible." (Mealey 1983.)

Response 13-42. wildlife, biological reserves
The FEIS uses best available science and a landscape scale approach in the analysis through references to the South Fork Clearwater River Landscape Assessment and the Red River Ecosystem Analysis at the Watershed Scale.

Habitat distributions were assessed by mapping analysis indicators and overlaying treatment units for each species/species group. The FEIS discusses this analysis in the Chapter 3 Wildlife section.

We agree that wildlife species benefit from large connected biological reserves. The FEIS Wildlife section was supplemented to include information on wilderness and roadless areas providing these important wildlife habitats. In general, RHCAs provide good habitat connections in this landscape.

The FS in this region has acknowledged that viability is not merely a project area consideration, that the scale of analysis must be broader:

> Population viability analysis is not plausible or logical at the project level such as the scale of the Dry Fork Vegetation and Recreation Restoration EA. Distributions of common wildlife species as well as species at risk encompass much larger areas than typical project areas and in most cases larger than National Forest boundaries. No wildlife species that presently occupy the project area are at such low numbers that potential effects to individuals would jeopardize species viability. No actions proposed under the preferred alternative would conceivably lead to loss of population viability. (Lewis and Clark NF. Dry Fork EA Appendix D at p. 9.)

Response 13-43. Wildlife population viability, monitoring larger than project area

The viability analysis was supplemented between the DEIS and FEIS to incorporate FIA data. The terrestrial species viability analysis is located in the project file.

The DEIS should have firmly established that the species that exist, or historically are believed to have been present in the analysis area are still part of viable populations. Since Forest Plan monitoring efforts have failed in this regard, it must be a priority for project analyses. Yet, the project analysis relies on this inadequate and/or unavailable forest plan monitoring. Identification of viable populations is something that must be done at a specific geographic scale. The analysis must cover a large enough area to include a cumulative effects analysis area that would include truly viable populations. Analysis must identify viable populations of MIS, TES, at-risk, focal, and demand species of which the individuals in the analysis area are members in order to sustain viable populations.

Response 13-44a. wildlife, species
See response to Comment 13-41.

The complete summary record of our Forest Plan monitoring of MIS and TES species results is located in and supports the terrestrial species viability analysis document located in the project file. The species viability analysis incorporates both habitat and population data.

The old growth analysis is inconsistent with the analyses for various species dependent on old growth habitats. The DEIS maintains that no old growth would be affected by any alternative. However, it seems that habitat for old growth species would be affected, though the DEIS provides no data to ascertain whether this is true.

Response 13-44b. Old growth, habitat
There is a difference between old growth habitat and the habitats used by old growth associated species. Old growth associated species use habitats that do not qualify as old growth habitat under the Northern Region Old Growth Guidelines (Green et al.) or the Nez Perce Forest Plan Old Growth definitions in Appendix N. Impacts to old growth associated species would occur primarily to individual animals mostly through disturbance and alteration of non-old growth habitats found in home ranges.

In fact, the DEIS makes ludicrous assertions that old growth MIS would be helped by massive logging. There is no documentation to support this absurd conclusion. The fact that old growth is only 7% of the habitat in the area calls into question the entire analysis. Appendix N requires 10% old growth across the forest. There is no analysis of habitat affected under various alternatives. Is the public to assume that no older forests will be logged? What about lodgepole stands that meet at least one definition of old growth?

Response 13-45. Wildlife, old growth analysis.
Based on Cohen's (1999) research of defensible space (treating areas within a 200 foot buffer from homes) we know that this is an effective way to prevent homes from burning in wildfire. Taking this knowledge and applying it to how we may be able to prevent loss of valuable resources (such as old growth habitats), it is assumed that providing such a buffer adjacent to old growth habitats would help prevent loosing the resource to wildfire. It is assumed that if we meet the purpose and need of this project (reduce fuels, reduce timber stand densities, reduce timber stand ladder fuels; reduce the risk of high severity fires in treated timber stands) treated areas would have less severe wildfire.

Appendix N requires "…10 percent of the total forested acres as old growth with no less than 5 percent of the forested areas maintained as old growth within each prescription watershed…An additional 5 percent of the forest acres within each prescription watershed shall be designated as replacement old growth." The FEIS Table III-85 displays old growth and replacement habitat with total allocation of 14%. Refer to the Wildlife – Old Growth discussion in the FEIS for additional information.

See the FEIS Wildlife – Old Growth section for a display of Forest Inventory and Analysis data confirming on a forest-wide and watershed basis that Red River is meeting the minimum old growth requirements outlined in Appendix N.

"Older" (up to100 years old) lodgepole pine forests would be logged in the Red Pines proposal. A majority (70-75%) of the lodgepole pine trees on nearly 95,000 acres has been affected by the mountain pine beetle and is dead or dying. Because treatment stands have a high proportion of dead and dying lodgepole pine, these stands would not meet the70% canopy cover requirements of Forest Plan old growth definition in Appendix N. Most of the treatment stands in preferred Alternative E (99%) are classified as medium tree size (less than 21 inches dbh) or smaller. These do not meet the tree size requirements in the Forest Plan Appendix N definition. There are 20.47 acres of ponderosa pine/western larch in the large tree size proposed for restoration.

The project, by design, avoided these areas. The DEIS page III-223 states "Proposed activities were designed to avoid identified old growth and replacement old growth habitat, thereby avoiding potential harvest in cutting old growth and minimizing habitat loss and disturbance to species using mixed conifer old growth habitat. By focusing on dead and dying lodgepole pine, proposed activities effectively avoid the most valuable mixed conifer old growth habitats in the Red River watershed."

In response to comments, more old growth field reviews were conducted in fall 2004 and the old growth analysis was revisited. Please refer to the FEIS Wildlife – Old Growth section for more information.

The Red Pines Project was designed to avoid all direct impacts on Forest Plan old growth and replacement stands. While no direct effects are realized, NEPA requires that indirect as well as cumulative effects be disclosed. These disclosures by species are discussed in the FEIS, Chapter 3, Section 3.12. Related discussion on Neotropical migrant birds and their habitats is in the FEIS, Chapter 3, Section 3.12.

Additionally, a recent study by Lesica (1996), suggests that old growth occupied 20-50% of many pre-settlement forest ecosystems in the Northern Rockies-thus the FS's position, as assumed in the FEIS, that 10% old growth forestwide and a mere 5% old growth in each timber compartment is within the historic range and will support viable populations of old growth dependent species is not supported by the best scientific information.

The DEIS is not clear whether there has been any site specific analysis of the cutting units to determine .whether extant old growth would be logged. The DEIS flops back and forth between definitions, the forest plan definition or the North Idaho guidelines.

The DEIS is based on the premise that beetles threaten old growth in lodgepole pine. Yet the DEIS does not allocate lodgepole pine stands for old growth. There is shell game being played with old growth in this document. An honest, clear evaluation needs to occur.

Response 13-46. wildlife, old growth
Field notes from site visits to proposed treatment stands are located in the project file. Site specific analysis was conducted to make the determinations displayed on the table referenced in our response to Comment 13-47.

The Forest Service has been placed in a precarious position regarding old growth definitions. The Forest Plan definition is considered our "contract" with the public until the Plan is revised. The North Idaho guidelines are considered "best science" to some and we are required to use them based on our best science requirement. Previous documents using one or the other were called into question (i.e. American Crooked DEIS) based on the definition used. The FEIS attempts to clearly show both definitions were considered in the analysis. Please refer to the FEIS Wildlife – Old Growth section for more information.

Response 13-47. wildlife, veg, old growth, lodge pole pine.
See response to Comment 13-45.

The Forest Service felt it was prudent to allocate only non-lodgepole pine old growth habitats in light of the current mountain pine beetle epidemic which has killed 70-75% (Gibbson 2003; DEIS page III-139) of the lodgepole pine trees 6 inches DBH and greater in Red River. Lodgepole pine habitats are considered short-term old growth habitats (Green et al 1992). In order to manage for old growth associated species in the long-term, non-lodgepole pine habitats were selected for MA 20 Forest Plan allocation.

In response to your concerns, using existing data (FSVeg data and Green changed condition assessment in the Red River EAWS) we compared treatment stands to the Forest Plan-Appendix N and North Idaho (Green et al. 1992) old growth definitions.

Forest Plan Old Growth Criteria

≥15 trees per acre ≥21 inches DBH
≥ 0.5 snags per acre ≥21 inches DBH
Total overstory canopy closure ≥70 percent
Logs on the ground
Two or more canopy layers
Signs of rot and decadence

Vegetative Characteristics of lodgepole pine old growth forest type (Green et al.1992):

Minimum Characteristics:
10 trees per acre 13 inches DBH or more
Large trees 120 years old or more
Basal area 60 ft^2 per acre or more

"This [old growth] type may be single or multistoried…Multiple canopy layers are more common in stand of lodgepole pine and large trees of other seral species, such as Douglas-fir. Large lodgepole pine dominate these several habitat type where cold and frequent fire favors its occurrence as a seral species. This old growth type can maintain old growth characteristics for short periods until it is replaced by late seral or climax species.

The average age of the largest trees in this type is 173 years, with a range from 151 to 194. Individual trees of more long lived species may reach an estimated age of 347 years. There are an average of 81 trees per acre 13 inches DBH or more. The range of means across forest and forest types is from 15 to 64 on Douglas-fir, grand fir, and subalpine fire habitat types with beargrass or grouse whortleberry understories to 192 on moist subalpine fire habitat types with clinitonia or menziesia understories. The average basal area is 171 ft2 per acre. The range is 148 to 215 ft2. Low basal areas are associated with the drier and colder environments in this old growth type.

The average number of dead standing trees 9 inches or more DBH is 24 with a range of 1 to 37. The average percent of trees 9 inches or more DBH with dead or broken tops is 9 with a range of 9 to 19 in means across forests and forest types. The average percent of trees showing decay is 7, with a range of 2 to 13. The probability of rotten down log pieces 9 inches or more in diameter is moderate. Average litter and duff dept is 1 to 2 inches."

Lodgepole pine stands in Red River are 107-135 years old (DEIS page III-140), placing some of the habitats within the age necessary for old growth according to the Green et al. (1992) definition. There is no age criteria included in the Forest Plan old growth definition.

Lodgepole pine habitats do not meet the minimum size outlined in the Forest Plan Appendix N old growth definition. Some of the lodgepole stands have reached minimum size and trees per acre according to the Green et al. (1992) old growth definition. Red Pines DEIS Table III-40 displays changes in tree size classes as a result of implementing proposed activities. The table shows no changes in Red River medium and large tree size classes (trees 14 inches DBH and greater). This indicates treatments would occur in stands currently classified as small trees and smaller (14 inches DBH and smaller). Table III-41 (DEIS III-151) shows changes in tree densities by size class upon implementation of proposed activities. This table indicates no change in stand tree densities in the medium and larger tree size classes. It shows treatments would occur in pole to small tree size classes (14 inches DBH and smaller).

"Stand densities in mature lodgepole pine dominated stand in the project area generally range from approximately 400 to more than 700 pole- to medium-sized [5-21 inches DBH] trees per acre…(DEIS page III-143)" This far exceeds the average 81 trees per acres 13 inches DBH or more described in the Green et al. (1992) old growth definition. Table III-36 (DEIS page III-144) indicates trees 9-21 inches DBH average 30-70 trees per acre; falling short of the average 81 trees per acre 13 inches DBH or more described in the North Idaho Old Growth definition. The figures indicate there is a preponderance of pole and small size trees in treatment stands. If 30-70 trees per acre are 9-14 inches DBH, the remaining 330-630 trees per acre are smaller than 9 inched DBH.

Lodgepole pine dominated stands were not selected as old growth because they exceed Green et al. (1992) old growth criteria for dead standing trees and percent decay. Dead standing lodgepole pine in Red River are estimated at 70-75 percent of trees 6 inches or greater DBH (DEIS page III-139). This is well above the average 9 percent of trees 9 inches or more DBH with dead or broken tops combined with the average 7 percent of trees showing decay.

In essence, the DEIS fails NEPA (for adequate analysis) and NFMA (for MI and sensitive species) when considering old growth species and the impacts on them. As such, one can't evaluate the impacts to goshawks, fishers, pine martens and pileated woodpeckers.

Response 13-48. old growth species
The DEIS evaluates the impacts to old growth habitats. Species-specific analyses were conducted for northern goshawk, fisher, pine marten, and pileated woodpecker on pages III-218 through III-228. Analyses for these species were supplemented in the FEIS (see section 3.12).

Goshawks deserve more mention. The DEIS recommends nest protection zones that are half the size that agency scientists say are the minimum.

Response 13-49. wildlife, goshawk, nest protection.
See Responses: 14:5, 14-114a; 14-114b; 14-116, 14-115, 14-117, 14-120, 13-48. The FEIS was supplemented to include more analysis of goshawk habitat (see section 3.12)

DEIS reaches no real conclusion regarding wolverine from the various alternatives. There is no quantification of habitat lost or affect on wolverine populations. Instead, the DEIS assumes elk winter range as a surrogate for wolverine. What scientific research shows that adopting elk winter range as a surrogate for wolverine? We are aware of none.

Rather, wolverine research notes the sensitivity of wolverines to human disturbance. They have been considered wilderness dependent species by scientists (Hendee et al. 1978).

Response 13-50. wildlife, wolverine
The DEIS pages III-214 and III-215 include a discussion on wolverine. The DEIS page III-214 states there are 10,650 acres (10 percent of Red River) in wolverine summer range. Table III-105 of the FEIS displays wolverine summer habitat acres affected by proposed actions by alternative. Wolverine summer habitat overlaps elk summer habitat. Since wolverine prey on deer and elk (DEIS page III-214) assessing elk summer habitat helps assess wolverine prey species habitat conditions and project effects on prey species habitat. Table III-63 and III-64 in the DEIS (pages III-238/239 and III-240) display summer elk habitat effectiveness throughout Red River.

The DEIS pageIII-215 states wolverine winter at elevations around 4500 feet. Based on this criteria, there are 9112 acres below 4500 feet in Red River. Table III-105 in the FEIS displays wolverine winter habitat acres affected by proposed actions by alternative. More specifically, wolverine "Winter and spring habitat includes low elevation riparian areas and ungulate winter range where carrion is available as a food source. (DEIS page III-215). Impacts to riparian habitats were displayed on Table III-60 (DEIS page III-231). Treatments in ungulate winter range were displayed on Table III-56 and discussed on pages III-215 through III-218 in the DEIS.

The DEIS acknowledges that "Wolverines are a sensitive species relatively intolerant of human disturbance requiring large tracts of remote mountainous habitat to thrive (Hornocker and Hash 1981) (DEIS page III-214)." Based on this criteria, Red River contain little suitable wolverine habitat due to current use and past management history. Table III-56 in the DEIS displays road decommissioning by alternative that would benefit wolverine. Table III-64 displays security areas as a percentage of each summer elk habitat effectiveness unit in Red River. This can be used in a general way to assess affects to wolverine habitat.

Table III-53 in the DEIS (page III-207) provides a preliminary effect determination for wolverine.

The DEIS wolverine analysis was supplemented in the FEIS, see section 3.12 of the FEIS.

The DEIS concludes that there are no optimal habitats for lynx in the area. However, sighting records are not evaluated or mentioned. Rather, the arbitrary figure of 4,000 feet is sued which has proven to be inaccurate for much of Idaho. In fact, many sighting records are below this elevation including a recent one on the adjacent Clearwater National Forest (by the agency biologist no less) in the Lochsa drainage.

The arbitrary definition of lynx habitat has not gone through NEPA. In fact, recent court decisions have ruled these definitions of lynx habitat do not have an adequate legal basis. This DEIS makes the same error.

Response 3-51. wildlife, lynx habitat definitions, habitat locations.
Response 13-51a.
Currently, we use the Lynx Conservation Assessment and Strategy for guidance in lynx management. Lynx habitat mapping direction has been provided to us in an interagency U.S.D.A. Forest Service, U.S.D.I. Fish and Wildlife Service and U.S.D.I. Bureau of Land Management), memo dated August 22, 2000. This memo is part of the Red Pines project file. The enclosure of the memo includes "Criteria and Procedures for Lynx Habitat Mapping". These criteria were developed by the National Lynx Biology Team.

See Response to Comment 13:5b for more information.

In any case, the lynx habitat map in the DEIS is different than the one provided by the agency in response to a FOIA from Friends of the Clearwater. Why is there this discrepancy?

Response 13-51b.
Lynx habitat mapping on the Nez Perce Forest has undergone recent adjustments as recommended by the National Lynx Biology team. Their recommendations were based on an on-site field review conducted in October, 2003. The Conservation Measures and mapping direction in the Lynx Conservation Assessment and Strategy, and the most recent changes in the Forestwide lynx habitat map (Forest GIS file: c/fsfiles/gis/projects/lynx_habitat/lynx_habitat.mxd 20 April 2004), per direct review and adjustment by the National Lynx Biology Team – October 2003, are used and applied in this analysis.

The DEIS does not refer to the standards in the LCAS? It appears the LCAS is not being followed. Why not?

Response 13-52. The LCAS standards are in the BE?BA?
Page III-203 of the DEIS states, "…all alternatives are consistent with the Canada Lynx Conservation Assessment and Strategy…"

Page III-208 of the DEIS states "Lynx habitat would be in compliance with the Lynx Conservation and Assessment Strategy [2000] under all alternatives."

The DEIS page III-234 states, "Red River watershed contains two lynx analysis units (LAUs). Potential lynx denning habitat is abundant. Each LAU has well over the minimum 10 percent Lynx Conservation Assessment and Strategy requirement (see Table III-61)…Table [III-61] shows habitat in each LAU is available at required amounts." The criteria used(denning habitat, unsuitable habitat and identification of LAUs) in Table III-61 come directly from LACS.

The DEIS (page III-235) under Alternative A discussion states, "Maintaining over 10 percent denning habitat in each LAU is required by the Lynx Conservation Assessment and Strategy (2004). The Lynx Conservation Assessment and Strategy also requires unsuitable habitat to remain below 30 percent of each LAU. As Table III-62 indicates, Red River watershed lynx habitat meets these requirements.

The DEIS (page III-235) under Alternatives B, C, and D discussion also references LCAS.

The EHE analysis does not reflect the extent of EHE during project implementation. It makes sense to close areas and/or roads during project implementation to meet the EHE.

Response 13-53. Wildlife, EHE, calculations.
Items 37 and 38 in Table II-3 (DEIS pages II-16 and II-17), Project Design Measures state:

> Item 37: "The integrity of existing access management restrictions would be maintained within the planning area for wildlife security purposes. No hunting or trapping of animals using motorized vehicles on a restricted road would be allowed by any contractor or their representatives."
> Item 38: "Temporary roads would be decommissioned one to three years after construction. Additional measures may be implemented to ensure access restriction, including over-snow access by snowmobiles in winter. This would be done at conclusion of project activities."

For a project of this magnitude and complexity, modeling cannot accurately display effects during activities because there is no way to determine which activities in what locations at what time would occur or duration of activities during project implementation.

Roads

Roads often have devastating impacts on water quality and fish habitat by increasing landslides, erosion, and siltation of streams. Roads also fragment forests and degrade or eliminate habitat for species that depend on remote landscapes, such as grizzly bears, wolves, and other large, wide-ranging predators (Trombulak and Frissel12000). The DEIS should have used the Roads Analysis Process. However, this analysis has yet to be completed by the Nez Perce National Forest.

Response 13-54. transportation.
The forest-wide roads analysis has not been completed, but a more precise, localized roads analysis consistent with the requirements of section 7712.13c of Forest Service Manual 7700 (FSM 7700) – Transportation System was conducted as part of the Red River Watershed Ecosystem Assessment at the Watershed Scale. Each road within the watershed was evaluated and recommendations were made for their future management. Our proposals for the Red Pines project involving road improvements, reconditioning and decommissioning were based on that analysis.

We have recently documented where road closures have been ineffective on the Red River District. ATVs cut a trail and have been driving on the Jack timber sale area that has been closed to wheeled vehicle traffic. The DEIS needs to reflect this worst-case scenario because it is occurring on the ground.

Response 13-55. transportation, effectiveness of closures.
Enforcement of area closures is always a difficult task on our national forests. National forest land is patrolled year round by Forest Service law enforcement personnel, Idaho Department of Fish and Game, local sheriffs departments, and the public. Breaches do occur but these occurrences are relatively infrequent,. Patrolling by law enforcement will continue as available resources allow. Refer to the FEIS, Chapter III, Section 3.13 Transportation, Environmental Consequences for additional information regarding control of access on closed and decommissioned roads. The intent is to continue to patrol within available budget direction.

Please refer to Response 5-8 and Response 13-55 for further details.

Wild and Scenic Rivers

While the project does not appear to affect the eligible South Fork segment (which appears to begin at the confluence of the Red and American Rivers), the DEIS errs regarding PACASH. It claims PACFISH will protect river segments yet the proposed action (alternative B) and possibly all the action alternative violate PACFISH.

Response 3-56. wild and scenic rivers, effects, PACFISH.

Please refer to responses 4-7 and 13-23.

Heritage Values

The DEIS clearly notes more surveys are to be conducted in 2004. This information was not available for the draft that is a clear violation of NEPA. NEPA requires information be available before decisions are made.

Response 13-57. Heritage, surveys.
Additional archaeological surveys were performed in 2004 due to the addition of the Red River Salvage project into the Red Pines project. The 2004 surveys concentrated on the Red River Salvage portion of the project that had less than adequate archaeological surveys. These surveys inventoried an additional 99 acres within the Red Pines project area, specifically in the Red River Salvage units. The final survey consultation report is being prepared for submittal to the State Historic Preservation Office (SHPO) in February 2005. This information is summarized in Chapter III, Section 3.15.6.1 of the FEIS.

Economics

The DEIS clearly shows this project is a money loser. It does not detail how it complies with NFMA requirements that timber program be economically viable.

Response 13-58. Economics.
The economics of this project, as it relates to timber values, is discussed and displayed in the FEIS, Chapter III, in Section 3.18. The FEIS recognizes that the timber values will be low and not support a large action. In support of that fact, the economic analysis displays different alternatives of low value offerings.

The DEIS also needs to show how restoration will occur in light of this economic reality. Erroneously conflating logging and restoration, as the agency does, leads to a robbing-Peter-to-pay-Paul mentality. It this case it appears the robbed from Peter is insufficient to pay Paul.

Response 13-59. Economics, restoration.
See Responses. 13-58 and 14-48.

TES Plants

The problem with the DEIS is that the analysis contains no quantitative information on the threats from logging and roadbuilding (or other activities) to these species. There is a narrative but the DEIS fails to meet NEPA and NFMA mandates for an analysis.

Response 13-60. Botany, analysis.
Quantitative analysis of the impacts of proposed activities on sensitive plant species is summarized in Table III-46 on page III-174 of the DEIS. The percent of habitat impacted for each species by management activities is also included.

Summary

The Red Pines project is one that would cause serious problems. It proposes to violate the forest plan, is not economically viable, and produces few benefits. There is no array of alternatives and inadequate cumulative impacts on everything from water quality to TES species. As such, this project should be stopped.

Sincerely,

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